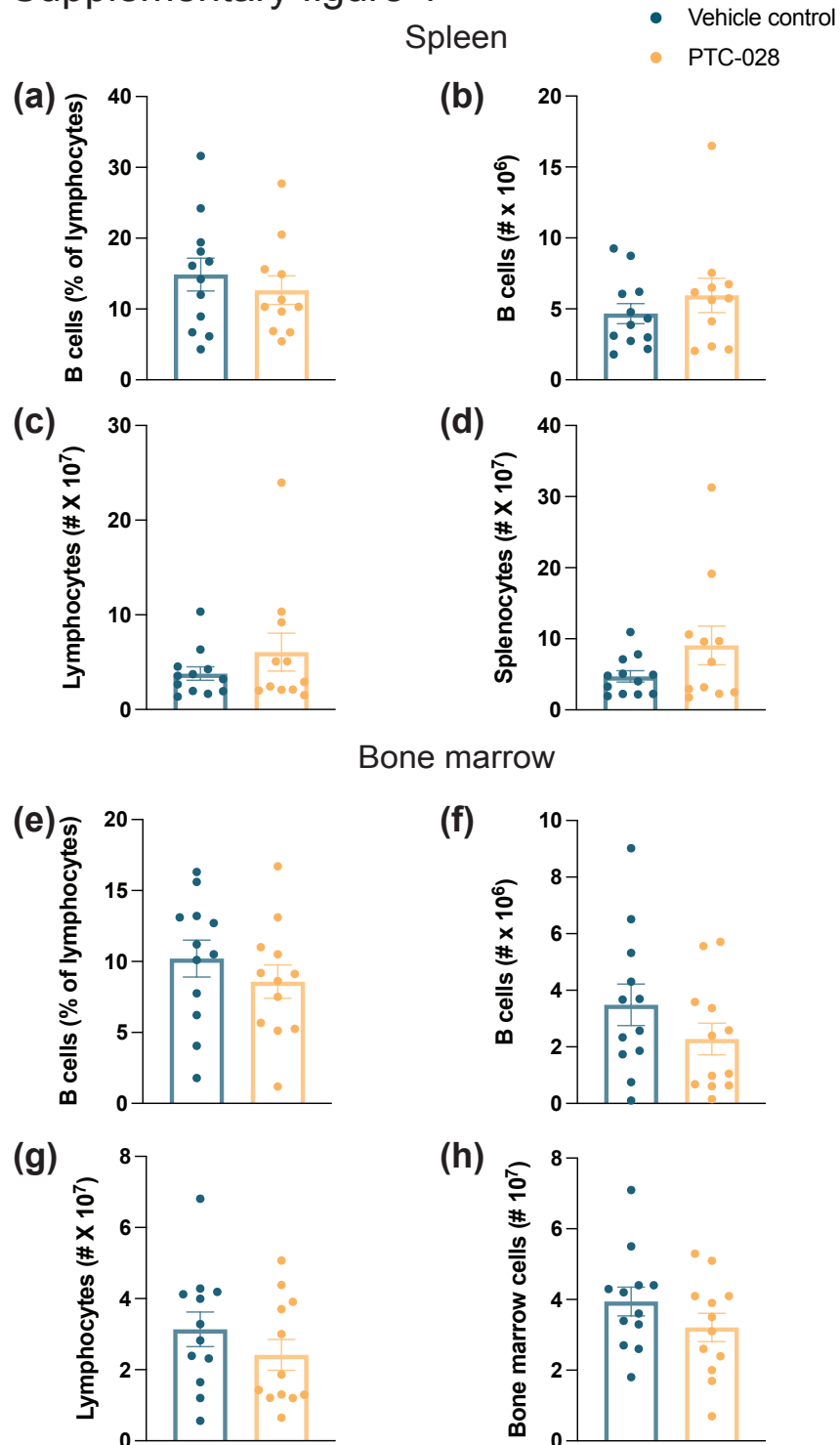


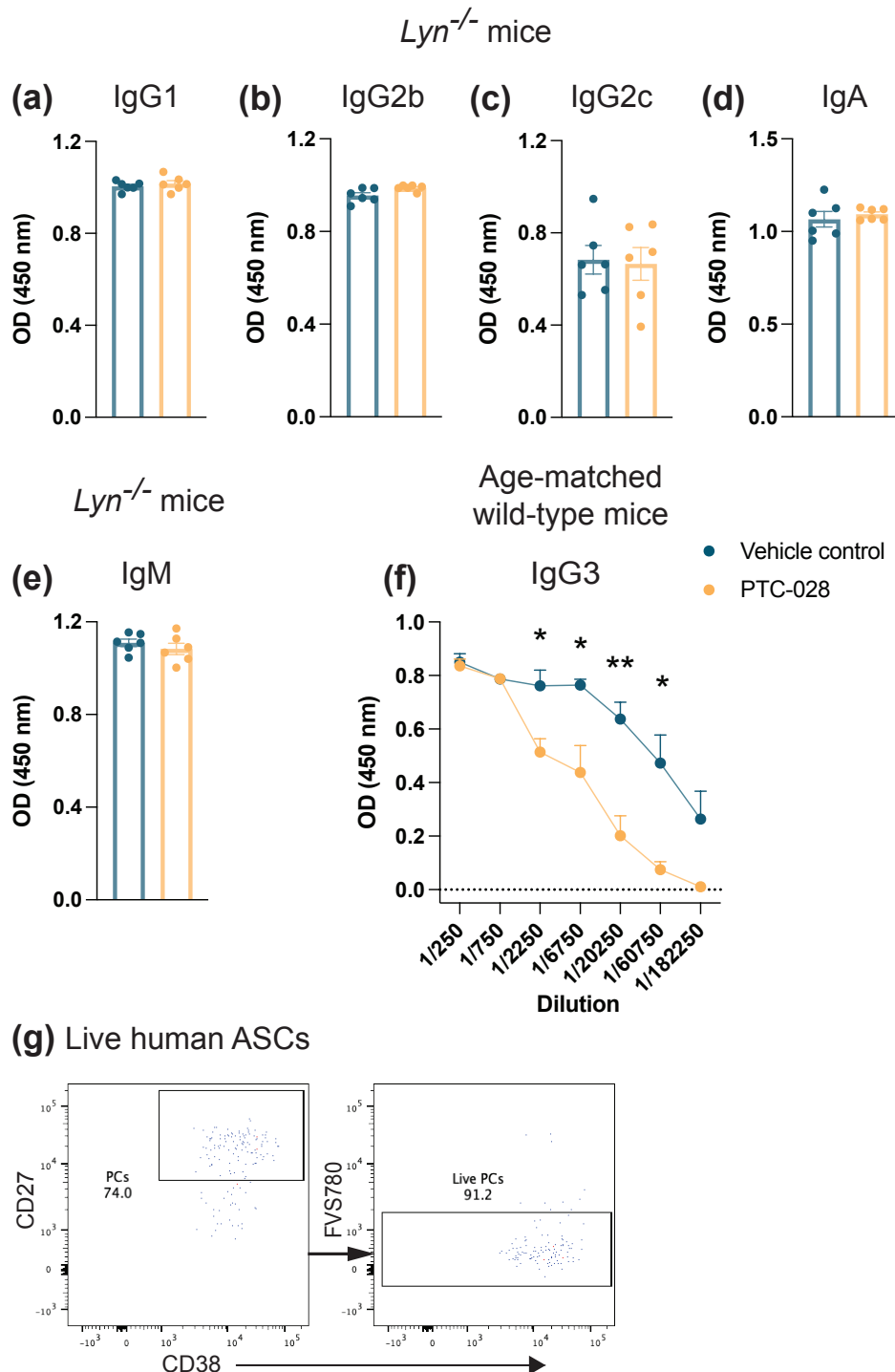
Supplementary figure 1



Supplementary figure 1: PTC-028 did not alter B cell, lymphocytes or total cellularity in the spleen on bone marrow.

Lyn^{-/-} mice were treated with vehicle control or PTC-028 and assessed on d15. **(a)** Frequency of splenic B cells as a proportion of total lymphocytes; **(b)** total number of splenic B cells; **(c)** total number of lymphocytes in the spleen; **(d)** total number of splenocytes. **(e)** Frequency of bone marrow B cells as a proportion of total lymphocytes; **(f)** total number of bone marrow B cell; **(g)** total number of lymphocytes in the bone marrow; **(h)** total number of bone marrow cells. Data are presented as the mean \pm SEM with individual data points representing one mouse. Data are combined from three independent experiments. n = 11 or 12 per group. Mann-Whitney nonparametric two-tailed tests were used for statistical analysis.

Supplementary figure 2



Supplementary figure 2: Assessment of serum antibody in *Lyn*^{-/-} mice and age-matched wild type mice.

(a) IgG1, **(b)** IgG2b, **(c)** IgG2c, **(d)** IgA and **(e)** IgM in *Lyn*^{-/-} mice treated with vehicle control or PTC-028 once daily on days 0 to 11 and then assessed on day 15. Data shown are representative of three independent experiments. n = 6 per group. Data is presented as the mean ± SEM with individual data points representing one mouse. **(f)** ELISA results measuring total serum IgG3 antibody from wild-type mice (≥ 6 months old) on day 15. Data shown are representative of two independent experiments. n = 5 per group. **(g)** Representative flow plots of FVS780⁻CD27^{hi}CD38^{hi} ASCs (previously gated on CD20⁻CD3⁻CD14⁻CD16⁻CD19⁺). Data are presented as the mean ± SEM. Mann-Whitney nonparametric two-tailed tests were used for statistical analysis. **P* ≤ 0.05, ***P* ≤ 0.01.

Supplementary table 1: Sjögren's Syndrome patient details.

| Code ID | Sex | Age | Year of diagnosis | Sjogren's manifestations | Comorbidities | Anti-SSA | RF | Serum IgG (g/L, NR 6-16) | ESSDAI score | Medication <i>Immunomodulatory therapy in italics</i> |
|----------------|------------|------------|--------------------------|--|---|-----------------|-----------|---------------------------------|---------------------|--|
| SS01 | F | 32 | 2018 | Sicca Salivary gland enlargement Annular erythema Lymphopenia | Pituitary microadenoma Autoimmune hypothyroidism | Yes | Yes | 16.75 | 3 | <i>Prednisolone 3mg</i> <i>Hydroxychloroquine</i> |
| SS02 | F | 60 | 2019 | Sicca Inflammatory arthritis | Colonic adenocarcinoma Malignant melanoma | Yes | Yes | 14.29 | 2 | Meloxicam Thyroxine Propranolol Eletriptan Rosuvastatin Topiramate |
| SS03 | F | 61 | 2019 | Sicca Salivary gland enlargement | Thyroid carcinoma Parotid gland mucoepidermoid carcinoma Type 2 diabetes mellitus Diabetic peripheral neuropathy | Yes | Not done | 10.78 | 2 | Sitagliptin Metformin Thyroxine Rosuvastatin Calcium carbonate and magnesium carbonate |
| SS04 | F | 62 | 2017 | Sicca Lymphocytic interstitial pneumonitis | Obstructive sleep apnoea Hypertension Autoimmune hypothyroidism | Yes | Yes | 24.04 | 26 | <i>Hydroxychloroquine</i> Thyroxine Olmesartan Diclofenac Epomeprazole |

| | | | | | | | | | | |
|------|---|----|------|---|--|-----|-----|------|----|---|
| | | | | Cutaneous lupus erythematosus Inflammatory arthritis Lymphopenia | | | | | | Paracetamol Nocturnal oxygen |
| SS05 | F | 62 | 2017 | Sicca Peripheral and autonomic neuropathy Lymphopenia | Colonic carcinoma Hypertension Type 2 diabetes mellitus Exocrine pancreatic insufficiency | Yes | Yes | 8.4 | 13 | <i>IVIg</i> <i>Hydroxychloroquine</i> Amphotericin Amgapre Ondansetron Tramadol Paracetamol Atorvastatin Esomeprazole Lercanidipine Metformin Telmisartan/hydrochl orothiazide Carbamazepine |
| SS06 | F | 67 | 1995 | Sicca Salivary gland enlargement Lymphadenopat- hy Splenomegaly Cutaneous vasculitis Lymphocytic interstitial pneumonitis | | Yes | Yes | 10.8 | 25 | <i>Prednisolone 10mg</i> <i>Mycophenolate</i> <i>mofetil</i> <i>Rituximab</i> |

| | | | | | | | | | | |
|--|--|--|--|--------------------------------------|--|--|--|--|--|--|
| | | | | Inflammatory arthritis Anaemia | | | | | | |
|--|--|--|--|--------------------------------------|--|--|--|--|--|--|

Supplementary table 2: Age and sex matched healthy donor details.

| Code ID | Sex | Age | Patient match |
|---------|--------|-----|---------------|
| HD01 | Female | 33 | SS01 |
| HD02 | Female | 61 | SS02 |
| HD03 | Female | 60 | SS03 |
| HD04 | Female | 64 | SS04 |
| HD05 | Female | 63 | SS05 |
| HD06 | Female | 67 | SS06 |